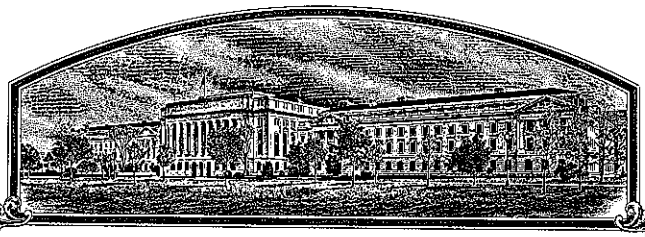
No. 9400127



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Northrup King Company

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

ALFALFA

'Spredor 3'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this thirty-first day of July in the year of our Lord one thousand nine hundred and ninety-five.

Attest:

Acting Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and edition date on all reproductions.* OMB APPROVED NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(INSTRUCTIONS ON REVERSE)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate)
Northrup King Co.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO.

3. VARIETY NAME
Spredor 3

4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP)
P.O. Box 959
Minneapolis, MN 55440

5. PHONE (include area code)
(612) 593-7333

FOR OFFICIAL USE ONLY

PVPO NUMBER
9400127

FILING
Date: March 21, 1994
Time: ☐ A.M. ☐ P.M.

FEES RECEIVED
Filing and Examination Fee: $ 2,325.00
Date: March 21, 1994
Certificate Fee: $ 275.00 $125.00
Date: June 15, 1995 07/05/95

6. GENUS AND SPECIES NAME
Medicago sativa

7. FAMILY NAME *(Botanical)*
Leguminosea

8. CROP KIND NAME *(Common Name)*
Alfalfa

9. DATE OF DETERMINATION
October, 1990

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.)
Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
Delaware

12. DATE OF INCORPORATION
1976

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Jan Johnson
Alfalfa Product Manager
Northrup King Co.
P.O. Box 959
Minneapolis, MN 55440
PHONE (include area code): (612) 593-7261

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow INSTRUCTIONS on reverse)*
- a. ☒ Exhibit A, Origin and Breeding History of the Variety
- b. ☒ Exhibit B, Novelty Statement
- c. ☒ Exhibit C, Objective Description of Variety
- d. ☐ Exhibit D, Additional Description of Variety
- e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership
- f. ☒ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office March 18
- g. ☒ Filing and Examination Fee ($2,325) made payable to "Treasurer of the United States"

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See section 83(a) of the Plant Variety Protection Act)* ☐ YES *(If "YES," answer items 16 and 17 below)* ☒ NO *(If "NO," skip to item 18 below)*

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? ☒ YES ☒ NO per letter AMA 20th 1995

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? ☒ FOUNDATION ☐ REGISTERED ☒ CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
☐ YES (If "YES," through ☐ Plant Variety Protection Act ☐ Patent Act. Give date: _____).
☒ NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
☒ YES (If "YES," GIVE NAMES OF COUNTRIES AND DATES) USA April 1993
☐ NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT [Owner(s)]	CAPACITY OR TITLE	DATE
Jan Johnson Jan Johnson	Product Manager	March 16, 1994
SIGNATURE OF APPLICANT [Owner(s)]	CAPACITY OR TITLE	DATE

SD-470 (06-93) *Editions of Forms LS-470 (3/86) and CSSD-470 (5/89) are to be destroyed.*

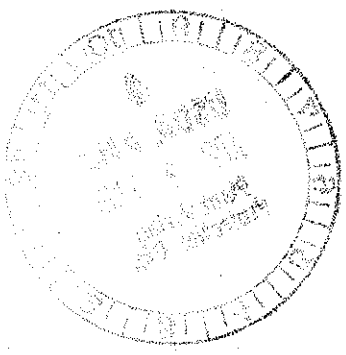
CONTINUED ON REVERSE

9400127

Spredor 3 PVP Appication
Exhibit A (Origin and breeding history)

Spredor 3 is a synthetic variety with 44 parent plants. Parents were selected from a four year old Iowa nursery for vigor, winter survival and expression of the creeping rooted trait. Parental germplasm traces to multiple pest resistant selections from the variety Spredor 2. Phenotypic selection for resistance to the following diseases was used: bacterial wilt, Verticillium wilt, anthracnose and Phytophthora root rot. Syn1 seed was produced by hand pollination in the greenhouse. An equal quantity of seed was bulked from each parent and used to establish a Syn2 breeder seed production field. Breeder seed (Syn2) was produced near Othello, Washington in 1990.

This variety has been observed in detail from the Syn2 to the Syn4 generations and has been found to be stable and uniform for all key traits.



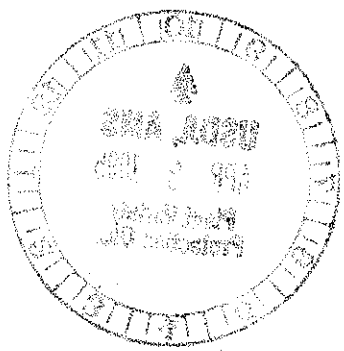
9400127

Spredor 3 PVP Application
Exhibit B (Novelty Statement)

This variety is most similar to the cultivar Spredor 2, from which it is derived and the Pioneer variety 5151. It is somewhat similar to the variety Agate. Spredor 3 differs from these cultivars in resistance to anthracnose and Phytphthora root rot. A comparison is shown below:

	An (%R)	Prr (%R)
Arc	59	--
Spredor 3	32	18
Spredor 2	2	2
Agate	0	35
5151	0	5
Saranac	0	1
LSD (.05)	9.3	8.9
C.V. %	19.2	17.8

The above tests were conducted at Forage Genetics (West Salem, WI) in January and February 1995. Standard test procedures were used.



Spredor 3 PVP Application
Exhibit B (Novelty statement)

This variety is most similar to the cultivar Spredor 2, from which it is derived and the Pioneer variety 5151. Spredor 3 differs from these cultivars in resistance to several important alfalfa pests. These differences are summarized below:

	Bw	Fw	Vw	An	Prr
Spredor 3	HR	HR	MR	R	MR
Spredor 2	HR	MR	S	S	S
5151	R	R	S	S	S

Bw = bacterial wilt
Fw = Fusarium wilt
Vw = Verticilum wilt
An = anthracnose
Prr = Phytophthora root rot

Spredor 3 differs from other alfalfa varieties based on its very winterhardy rating, very early fall dormancy (FD=1) and high expression (>50%) of the creeping rooted trait.

FORM APPROVED: OMB NO. 0581-0055

EXHIBIT C
(Alfalfa)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK AND SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

OBJECTIVE DESCRIPTION OF VARIETY

ALFALFA *(Medicago sativa* sensu Gunn et al.*)*

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
Northrup King Co.		Spredor 3

ADDRESS *(Street and No., or R.F.D. No., City, State, and Zip Code)*
P.O. Box 959
Minneapolis, MN 55440

FOR OFFICIAL USE ONLY
PVPO NUMBER
9400127

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place numbers in the boxes to designate the expressions which are characteristic of the commerical generations of the application variety. Data for quantitative plant characters should be based on a minimum of 100 plants. Include leading zeros when necessary (e.g., [0][8][9]) for quantitative data. Comparative data should be determined from varieties entered in the same trial. Plant color may be precisely designated by using any recognized color chart, e.g., The Munsell Plant Tissue Color Charts.

1. WINTERHARDINESS:

[9] CLASS:

1 = Very Non-Winterhardy (CUF 101)
2 = Non-Winterhardy (Moapa 69)
3 = Intermediately Non-Winterhardy (Mesilla)
4 = Semi-Winterhardy (Lahontan)
5 = (Du Puits)
6 = Moderately Winterhardy (Saranac)
7 = (Ranger)
8 = Winterhardy (Vernal)
9 = Extremely Winterhardy (Norseman)

TEST LOCATION: Stanton, MN

2. FALL DORMANCY:

FALL DORMANCY (DETERMINED FROM SPACED PLANTINGS)

TESTING INSTITUTION AND LOCATION	DATE OF LAST CUT	DATE REGROWTH SCORED	REGROWTH SCORE OR AVERAGE HEIGHT				LSD .05
			APPLICATION VARIETY	CHECK VARIETIES*			
				Norseman	Vernal	Saranac	
W. Salem, Wisconsin (Forage Genetics)	9/2/93	10/3/93	4.8	4.4	5.6	9.1	0.62

* CUF 101, Moapa 69, Mesilla, Lahontan, Du Puits, Saranac, Ranger, Vernal, or Norseman as appropriate.

Specify scoring system used: inches of re-growth

[9] Fall Growth Habit (Determined from Fall Dormancy Trials)

1 = Erect (CUF 101)
3 = Semierect (Mesilla)
5 = Intermediate (Saranac)
7 = Semidecumbent (Vernal)
9 = Decumbent (Norseman)

3. RECOVERY AFTER FIRST SPRING CUT (In Southwest, first cut after March 21):

[8]

1 = Very Fast (CUF 101)
3 = Fast (Saranac)
5 = Intermediate (Ranger)
7 = Slow (Vernal)
9 = Very Slow (Norseman)

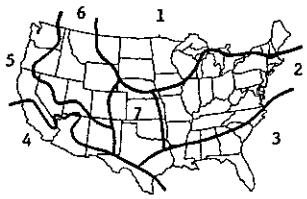
TEST LOCATION: West Salem,, WI

4. AREAS OF ADAPTATION IN U.S. (Where tested and proven adapted):

[1] Primary Area of Adaptation

[2] [6] Other Areas of Adaptation

1 = North Central
2 = East Central
3 = Southeast
4 = Southwest
5 = Moderately Winterhardy Intermountain
6 = Winterhardy Intermountain
7 = Great Plains
8 = Other *(Specify)* _____



5. FLOWERING DATE (When 10% of plants possess open flowers at time of first spring cut):

[ ][ ] Days Earlier Than . . . . . [ ]
Same As . . . . . [ ]
[ ][2] Days Later Than . . . . . [4]

1 = CUF 101
2 = Mesilla
3 = Saranac
4 = Vernal
5 = Norseman

TEST LOCATION: West Salem, WI

6. PLANT COLOR (Determined from healthy regrowth 3 weeks after first spring cut, controlling leafhoppers if necessary):

[2] 1 = Very Dark Green (524) 2 = Dark Green (Vernal) 3 = Light Green (Ranger)

COLOR CHART VALUE *(Specify chart used;* _____ *):*

APPLICATION VARIETY: _____

VERNAL: _____

TEST LOCATION: West Salem, WI

7. CROWN TYPE (Determined from spaced plantings):

[4] Noncreeping Types: 1 = Broad (Vernal) 2 = Intermediate (Saranac) 3 = Narrow (CUF 101)

Creeping Types: 4 = Creeping Rooted (Rangelander) 5 = Rhizomatous (Rhizoma)

8. FLOWER COLOR (Determine frequency of plants for each color class as defined by USDA Agricultural Handbook No. 424 (Barnes 1972), allowing all plants in plot to flower):

[59] % Purple and Violet (Subclasses 1.1 to 1.4)

[37] % Variegated Other Than Blue (Subclasses 2.1, 2.2, 2.5 to 2.9)

[0] % Cream (Class 3)

[0] % Blue (Subclasses 2.3 and 2.4)

[4] % Yellow (Subclasses 4.1 to 4.4)

[0] % White (Class 5)

TEST LOCATION: Stanton, MN

9. POD SHAPE (Determine frequency of plants with the following pod shapes produced on well cross-pollinated racemes):

[85] % Tightly Coiled (One or more coils, center more or less closed)

[13] % Loosely Coiled (One or more coils, center conspicuously open)

[2] % Sickle (Less than 1 coil)

TEST LOCATION: Stanton, MN

10. PEST RESISTANCE: **Provide in the appropriate column, trial data for application variety, and resistant (R) and susceptible (S) check varieties, synthetic generation tested, average severity index scores (ASI), least significant difference statistics (LSD .05), the institution in charge of test, year, and location of test, and whether test is a field or laboratory evaluation. Describe scoring system, and any test procedure which differs from standard methods proposed by Elgin (1982). Trial data from other test years or locations should be presented whenever available on a separate document as Exhibit D.**
Seeds of the check varieties and germplasm lines listed below can be obtained from the USDA Field Crops Laboratory, Bldg. 001, Rm. 335, BARC-West, Beltsville, MD 20705. Although comparisons with check varieties listed below are preferred, comparisons with any appropriate check variety recommended by Elgin (1982) may be presented.

A. DISEASE RESISTANCE: DISEASE	VARIETY	SYN. GEN. TESTED	PERCENT RESISTANT PLANTS	NUMBER OF PLANTS TESTED	ASI	ASI LSD .05	INSTITUTION, YEAR, LOCATION, FIELD OR LABORATORY
Anthracnose, Race 1 *(Colletotrichum trifolii)*	Application	3	35	100	-	12.2 (%R)	Forage Genetics, lab test
	~~Arc~~(R) Saranac AR		45				
	Saranac (S)		0				
	SCORING SYSTEM: % Seedling survival						
Anthracnose, Race 2 *(Collectotrichum trifolii)*	Application						
	Saranac AR (R)						
	Arc (S)						
	SCORING SYSTEM:						
Bacterial Wilt *(Corynebacterium insidiosum)*	Application	2	54	105	1.98	0.56 (ASI)	NK - Stanton, MN 1991 field test
	Vernal (R)		42		2.30		
	Narragansett (S)		0		4.13		
	SCORING SYSTEM: (1-5) 1=no disease, 5=dead plant (1+2) = resistant						
Common Leafspot *(Pseudopeziza medicaginis)*	Application						
	MSA-CW3AN3 (R)						
	Ranger (S)						
	SCORING SYSTEM:						

6

10. C. NEMATODE RESISTANCE (Continued):

NEMATODE	VARIETY	SYN. GEN. TESTED	PERCENT RESISTANT PLANTS	NUMBER OF PLANTS TESTED	ASI	ASI LSD .05	INSTITUTION, YEAR, LOCATION, FIELD OR LABORATORY
Southern Root Knot *(Meloidogyne incognita)*	Application						
	Moapa 69 (R)						
	Lahontan (S)						
	SCORING SYSTEM:						
Stem Nematode *(Ditylenchus dipsaci)*	Application	2	20	100	3.51	0.54 (ASI)	NK - Stanton, MN 1991 lab test
	~~Kanza~~ (R) Vernema		65		2.30		
	Ranger (S)		10		3.98		
	SCORING SYSTEM: (1-5) 1=no sympotoms 5=dead plant (1+2) = resistant						
Other *(Specify)*	Application						
	(R)						
	(S)						
	SCORING SYSTEM:						

11. INDICATE THE VARIETY THAT MOST CLOSELY RESEMBLES THE APPLICATION VARIETY FOR EACH OF THE FOLLOWING CHARACTERS:

CHARACTER	VARIETY	CHARACTER	VARIETY
Winterhardiness	Spredor 2	Plant Color	Vernal
Recovery After 1st Cut	Spredor 2	Crown Type	Spredor 2
Area of Adaptation	Spredor 2	Combined Disease Resistance	DK-135
Flowering Date	Spredor 2	Combined Insect Resistance	Thor

REFERENCES

Barnes, D.K. 1972. A System for Visually Classifying Alfalfa Flower Color. U.S. Dep. Agric. Handb. 424. 18 pp. (Note: Greenish cast of plate 6, A and B is an artifact of printing, actual colors a blend of yellow and white.)

Elgin, J.H., Jr., (ed.). 1982. Standard Tests to Characterize Pest Resistance in Alfalfa Cultivars. U.S. Dep. Agric. Tech. Bull. (In Press).

Gunn, C.R., W.H. Skrdla, and H.C. Spencer. 1978. Classification of Medicago sativa L. using legume characters and flower colors. U.S. Dep. Agric. Tech. Bull. 1574. 84 pp.

Munsell Color Co. 1977. Munsell Plant Tissue Color Charts. Munsell Color Co., Inc. Baltimore.

NOTE: Any additional descriptive information and supporting documentation may be provided as Exhibit D.

10. A. PEST RESISTANCE (Continued):

DISEASE	VARIETY	SYN. GEN. TESTED	PERCENT RESISTANT PLANTS	NUMBER OF PLANTS TESTED	ASI	ASI LSD .05	INSTITUTION, YEAR, LOCATION, FIELD OR LABORATORY
Downy Mildew *(Peronospora trifoliorum)*	Application						
Isolate, if known:	Saranac (R)						
	Kanza (S)						
	SCORING SYSTEM:						
Fusarium Wilt *(Fusarium oxysporum f. medicaginis)*	Application	2	55	105	2.17	1.04 (ASI)	NK - Stanton, MN 1991 field test
	~~Xxxx~~ 69 (R) Agate		54		2.22		
	~~Xxxxxxxx~~ (R) MNGN-1		6		3.92		
	SCORING SYSTEM: (1-5) 1=no disease 5=dead plant (1+2) = resistant						
Phytophthora Root Rot *(Phytophthora megasperma f. medicaginis)*	Application	3	19	100	-	10.6 (%R)	Forage Genetics 1993 lab test
	Agate (R)		43				
	Saranac (S)		0				
	SCORING SYSTEM: % Seedling survival						
Verticillium Wilt *(Verticillium alboatrum)*	Application	2	19	100	3.01	0.59 (ASI)	NK - Stanton, MN 1991 lab test
	Vertus (R)		40		2.53		
	Saranac (S)		3		3.98		
	SCORING SYSTEM: (1-5) 1=no disease 5=dead plant (1+2) = resistant						
Other *(Specify)*	Application						
	(R)						
	(S)						
	SCORING SYSTEM:						
Other *(Specify)*	Application						
	(R)						
	(S)						
	SCORING SYSTEM:						

B. INSECT RESISTANCE: INSECT	VARIETY	SYN. GEN. TESTED	PERCENT DEFOLIATION	DEFOLIATION IN PERCENT OF RESISTANT CHECK	ASI	ASI LSD .05	INSTITUTION, YEAR, LOCATION, FIELD OR LABORATORY
Alfalfa Weevil *(Hypera postica)*	Application						
	Arc (R)			100			
	Saranac (S)						
	SCORING SYSTEM:						

10. B. INSECT RESISTANCE (Continued):

INSECT	VARIETY	SYN. GEN. TESTED	PERCENT SEEDLING SURVIVAL	NUMBER OF SEEDLINGS TESTED	ASI	ASI LSD .05	INSTITUTION, YEAR, LOCATION, FIELD OR LABORATORY
Blue Alfalfa Aphid *(Acyrthosiphon kondoi)*	Application						
	CUF 101 (R)						
	PA-1 (S)						
	SCORING SYSTEM:						
Pea Aphid *(Acyrthosiphon pisum)*	Application	2	20	100		17.5 (%R)	NK - Stanton, MN 1991 lab test
	~~Kxxx~~(R) Baker		45				
	Ranger (S)		6				
	SCORING SYSTEM: % Seedling survival						
Spotted Alfalfa Aphid *(Therioaphis maculata)*	Application						
Biotype, if known:	Kanza (R)						
	Ranger (S)						
	SCORING SYSTEM:						

INSECT	VARIETY	SYN. GEN. TESTED	PERCENT RESISTANT PLANTS	NUMBER OF PLANTS TESTED	ASI	ASI LSD .05	INSTITUTION, YEAR, LOCATION, FIELD OR LABORATORY
Potato Leafhopper Yellowing *(Empoasca fabae)*	Application						
	MSA-CW3An3 (R)						
	Ranger (S)						
	SCORING SYSTEM:						
Other *(Specify)*	Application						
	(R)						
	(S)						
	SCORING SYSTEM:						

C. NEMATODE RESISTANCE: NEMATODE	VARIETY	SYN. GEN. TESTED	PERCENT RESISTANT PLANTS	NUMBER OF PLANTS TESTED	ASI	ASI LSD .05	INSTITUTION, YEAR, LOCATION, FIELD OR LABORATORY
Northern Root Knot *(Meloidogyne hapla)*	Application						
	Nev. Syn. XX (R)						
	Lahontan (S)						
	SCORING SYSTEM:						

EXHIBIT E

STATEMENT OF THE BASIS OF OWNERSHIP

The alfalfa cultivar Spredor 3 was developed by Northrup King Co. alfalfa breeding staff from germplasm sources cited in Exhibit A of the application. Northrup King believes that Spredor 3 is novel as defined in the Plant Variety Protection Act, and therefore that Northrup King is the sole owner of Spredor 3.

State of Delaware

Office of the Secretary of State

I, EDWARD J. FREEL, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "NORTHRUP KING CO.", CHANGING ITS NAME FROM "NORTHRUP KING CO." TO "NOVARTIS SEEDS, INC.", FILED IN THIS OFFICE ON THE THIRTIETH DAY OF DECEMBER, A.D. 1996, AT 9 O'CLOCK A.M.

A CERTIFIED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS FOR RECORDING.

GREAT SEAL OF THE STATE OF DELAWARE • 1793 • 1847 • 1907 •

LIBERTY AND INDEPENDENCE

Edward J. Freel

Edward J. Freel, Secretary of State

0829320 8100

960389892

AUTHENTICATION: 8267947

DATE: 12-31-96

CERTIFICATE OF AMENDMENT OF CERTIFICATE OF INCORPORATION

OF

NORTHRUP KING CO.

It is certified that:

1. The name of the corporation (hereinafter called the "Corporation") is Northrup King Co.

2. The Certificate of Incorporation of the Corporation is hereby amended by striking out Section 1 thereof and by substituting in lieu of said Section the following new Section.

1. The name of the Corporation is Novartis Seeds, Inc.

3. The amendment of the certificate of incorporation herein certified has been duly adopted and written consent has been given in accordance with the provisions of Sections 228 and 242 of the General Corporation Law of the State of Delaware.

4. The effective date of the amendment herein certified shall be January 1,1997.

Signed on December 27, 1996.

Edward C. Resler
Vice President & Secretary